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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/405,031	09/24/1999	DOUGLAS R. COFFLAND	IL-10360	9034
7590 04/25/2008				
LLOYD E DAKIN JR ASSISTANT LABORATORY COUNSEL LAWRENCE LIVERMORE NATIONAL LABORATORY P O BOX 808-L-703 LIVERMORE, CA 94551			EXAMINER BETTT, JACOB F	
			ART UNIT 2164	PAPER NUMBER
			MAIL DATE 04/25/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

09/405,031

**Applicant(s)**

COFFLAND, DOUGLAS R.

**Examiner**

Jacob F. Betit

**Art Unit**

2164

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-30 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date: \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Remarks***

1. In response to communications filed on 7 February 2008 claims 1-30 are presently pending in the application.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

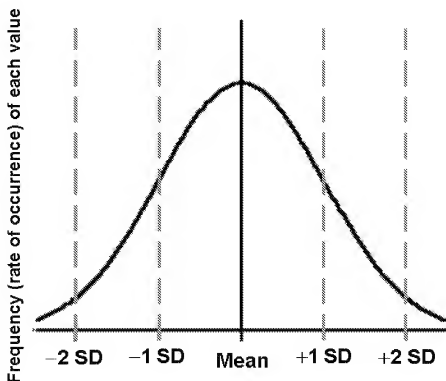
3. Claims 1-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 10, 17, and 24 recite limitation “random noise being unpredictable from one moment to the next”. This limitation is not described in the specification in such a way as to reasonably convey to one skilled in the relevant art, at the time the application was filed, had possession of the claimed invention. The specification states, “in one embodiment of the present invention, the media signal need only include random transducer noise having a noise signal amplitude”. One example of how this can be done is “a lens-cap could be on the camera causing the scene to be perfectly quiescent.” By putting the lens-cap on the camera the signal becomes more predictable, not “unpredictable” as claimed by the applicant. This is because the output of

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the camera signal when capturing a chaotic signal has two somewhat unpredictable signals added together to make a more unpredictable signal (i.e.,  $\text{Chaotic}_{\text{SIGNAL}} + \text{Noise}_{\text{signal}} = \text{Signal}$ ). The chaotic signal has more effect on the change in the quantized sample because the amplitude of a camera is going to have a much higher signal for the image captured by the camera than the noise produced by the camera. The chaotic signal would change several quantization levels when the image being captured is changed whereas if the quantization levels of the camera were set at a level close to the amplitude of the noise, as suggested by the specification, the quantized sample would only vary slightly (1-2 quantization levels) from the chaotic signal being captured. Therefore if the chaotic signal was replaced with a predictable signal by putting the lens-cap on, the resulting signal would be more predictable than before because the only changing data in the signal would be the noise from the transducer (camera), which only varies by a few quantization levels.

The random noise that is part of the claimed media signal is "white Gaussian noise" as disclosed in the specification. This noise is not "unpredictable" as claimed by the applicant because Gaussian noise is predictable based on the Gaussian Curve an example of which is shown below.



The graph shows that values that are closer to the mean are more likely to occur over time than values further away from the mean. Therefore “white Gaussian noise” is not “unpredictable” as currently recited in the claims.

The specification states, “Thus, even a perfectly quiescent media signal 104 (e.g., when a lens cap is on a video camera containing the transducer 102) will contain *some randomness* from the transducer noise.” The applicant’s specification then states, “Put another way, as long as a size of a smallest quantizer step is no larger than an amplitude of the transducer 102 noise, the quantized media signal 108 will include a *high level* of randomness even if input to the transducer is perfectly quiescent.” The applicant does not disclose: the steps required to go from “some randomness” to “high level of randomness”; and from “high level of randomness” the steps required to go to “random noise only” and being “unpredictable”.

Further proof that the media signal disclosed in the specification does not contain data that is “unpredictable” is the compression and hashing steps that following the acquisition of the signal that is claimed to be “unpredictable”. These steps as disclosed by the specification are used to reduce the predictability of the keyword generated. The compressed data stream is used to remove redundant data strings so that only differences between data frames are presented, and because frames of a compressed media signal can vary in size, sets of data can easily be taken from different parts of the frames, helping to limit the amount of redundant data collected. The hashing step is used because it “assures that the resultant identifier 311 varies significantly even if the set of data 309 only varies by one bit.” If the data that was acquired originally was completely random and unpredictable, there would be no reason to go through these steps.

Claims 2-9, 11-16, 18-23, and 25-30 are rejected for depending on independent claims 1, 10, 17, and 24.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, elements or instructions. See MPEP § 2172.01. The preamble of claims 1 and 17 state “a system adapted for use for multimedia encryption”. The preamble of claim 10 states “a method adapted for use for multimedia encryption”. The preamble for claim 24 states

“a computer-usable medium embodying computer program code adapted for use for multimedia encryption”. However the steps, elements, or instructions of the claims disclose creating a keyword. The claims omit the steps, elements, or instructions of actually encrypting any multimedia data.

Claims 2-9, 11-16, 18-23, and 25-30 are rejected for depending on independent claims 1, 10, 17, and 24 and for omitting the same steps, elements, or instructions that the independent claims omit.

#### ***Response to Arguments***

7. Applicant's arguments filed on 7 February 2008 have been fully considered but they are not persuasive.

In response to the applicant's arguments that the applicant's specification teaches “random noise being unpredictable from one moment to a next”, the arguments have been considered, but are not deemed persuasive. As stated previously by the examiner, white Gaussian noise is not unpredictable as values closer to the median are more likely to occur. The applicant has failed to respond to this part of the examiner's rejection. If the applicant believes that the specification is defining “random noise being unpredictable from one moment to the next” is equivalent to “white Gaussian noise” this should be clearly stated in the record as the specification gives this as an example, and it is not clear how “white Gaussian noise” is unpredictable from one moment to the next in the conventional sense. Therefore it is not clear what else would be considered unpredictable from one moment to the next. A recitation of this sort would overcome this 35 USC §112 rejection being given.

In response to the applicant's comments directed towards who "a person skilled in the art" is, these comments are not helpful as they do not make any reference to how the specification would be interpreted to one of ordinary skill in the art. The rejections do not intend to state that the inventor Mr. Douglas R. Coffland is not skilled in the art, and therefore proof that he is skilled in the art is unnecessary.

Further the applicant states, "the lead inventor, Douglas R. Coffland, is Division Leader-Security Engineering and Computational Division of the Lawrence Livermore National Laboratory". It is noted that according to the application file Mr. Coffland is not just the lead inventor but the only inventor.

As noted previously, although there is a strong presumption that an adequate written description of the claimed invention is present when the application is filed, once problems with the specification have been identified, they cannot be ignored.

In response to the applicant's arguments directed towards the 35 USC §112 first paragraph rejection stating that "multimedia encryption" was not sufficiently disclosed in the specification, the arguments have been considered, and are deemed persuasive. This rejection has been withdrawn.

In response to the applicant's arguments directed towards the 35 USC § second paragraph rejection stating that the claim is directed towards "a system adapted for use for multimedia encryption", "a method adapted for use for multimedia encryption", or "a computer-usable



medium embodying computer code adapted for use for multimedia encryption", the arguments have been considered, but are not deemed persuasive. The applicant has failed to point to any step in the claim that results in multimedia encryption as required by the preamble. Therefore the claims are still deemed to be missing this step.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob F. Betit whose telephone number is (571)272-4075. The examiner can normally be reached on Monday through Friday 10:30 am to 6:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

jfb

23 Apr 2008

/Charles Rones/

Supervisory Patent Examiner, Art Unit 2164